UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

5/13/85

Mr. Steven Stinger
Schwartz, Tobia and Stanziale
22 Crestmont Road
Montclair, New Jersey 07042

Dear Mr. Stinger:

As requested, enclosed please find a copy of the Hazardous Ranking System (HRS) scoring package, including all appropriate references, for the Dayco Corporation/L.E. Carpenter Company in Wharton Borough, New Jersey.

Sincerely yours,

Carole Petersen, Project Manager
Site Investigation and Compliance Branch

Enclosure

346245

ERRD:NJICS:CPETERSEN:ts:5/14/85

CONCURRENCES

SYMBOL	NJICS							
SURNAME	PETERSEN	CPeters						
DATE	5/14/85							

EPA Form 1320-1 (12-70)

OFFICIAL FILE COPY

*U.S. GPO : 1985-467-853

Appendix A

Wells #1-4 are downgradient wells

Well #5 is an upgradient well

Chem-25
Sept. 75

Attachment #1

NEW JERSEY STATE DEPARTMENT OF HEALTH
STREAM OR WASTEWATER ANALYSIS

Time & Date Received _____
By Labs
Lab. No. _____

NOV 3 8 47 AM

FIELD INFORMATION

NJ DEPT. OF ENVIRONMENTAL PROTECTION
DIV WATER RESOURCES
MS&E

PLEASE TYPE OR PRINT
WITH BALLPOINT PEN

Date of Collection 8-18 19 80
Hour 1:15 A.M. _____ P.M. ✓

Sample No. C04925

Composite Period GRAB Interval _____

Collected by CUNNINGHAM

Municipality Wharton

Residual Chlorine:
Immediate _____

Plant L E Carpenter

Developed _____

Stream _____

Flow Rate _____

Location N. Main St.

Temperature _____

Description and Remarks: Sludge ~~Sludge~~ Sample - Sludge lagoon (inactive waste impoundment)

ITEMS CIRCLED BELOW ARE UNSATISFACTORY

Dilutions Requested (Bacteriological)	10	1	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}

LABORATORY RESULTS
BACTERIOLOGICAL

Coliform MPN/100 ml. _____ (Confirmed Test); Fecal Coliform MPN/100 ml. _____

Fecal Streptococci:MPN/100 ml. _____ Other _____

ND = NON-DETECTABLE; I. E. BELOW DETECTABLE LIMITS RE METHOD # 4

m,p xylene 50000 L
o xylene 50000 L
STYRENE 50000 L
NONANE 50000 L
cumene 50000 L

OCT 30 1980

REPORT SUBMITTED
DIV. OF LABORATORIES & EPID.

CHEMICAL AND PHYSICAL ANALYSES (mgs./liter, unless otherwise noted) Kg

Color (units)	Chloride	Sulfate	Other Determinations
Odor (cold)	Suspended Solids	Grease & Oil	antimony 21.450
Turbidity (units)	Ash	Cyanide	~~boron~~
pH	Total Solids	Chromium Total	titanium 0.200K
Acidity to pH 4	Ash	Chromium Hex.	tin 0.100K barium 14.8
Alkalinity to pH 4	Total PO_4	Ortho - PO_4	silver 0.010 K
Nitrite N	MBAS	✓ Copper 0.965	nickel 1.259
Nitrate N	Phenols	✓ Lead 124.65	VOA SCAN / PPB
Ammonia N	COD	✓ Arsenic 0.005 K	chloroform 203
Total Kjel. N	Iron	✓ Zinc 328.13	benzene 79

1,1,2 trichloroethane 102
dibromochloromethane 3703
Mesitylene 3940
p-cymene 35774
butyl benzene 11650
heptane 63
Toluene 4526
octane 208
Trichloroethylene 48

BIOCHEMICAL OXYGEN DEMAND (mgs./liter)

Field D.O.		Lab. D.O.			Seed Required:			Yes		No		
Sample Conc. %	PLEASE CIRCLE	0.1	0.2	0.5	1.0	2.0	5.0	10	25	50	75	100
BOD_5												

H1832

Attachment "3"

Chem-25
Sept. 75

NEW JERSEY STATE DEPARTMENT OF HEALTH
STREAM OR WASTEWATER ANALYSIS

Time & Date Received
By Labs
Lab. No.

PLEASE TYPE OR PRINT
WITH BALLPOINT PEN

FIELD INFORMATION

Date of Collection 8-18 19 80
Hour 12:05 A.M. P.M. ✓
Sample No. C07448
Composite Period GRAB Interval
Collected by CUNNINGHAM, MENNEL, MILLER
Municipality Wharton
Plant CE Carpenter
Residual Chlorine:
Immediate
Developed
Stream
Flow Rate
Location N. Main St.
Temperature
Description and Remarks: Well #3 at mid-depth

ITEMS CIRCLED BELOW ARE UNSATISFACTORY

Dilutions Requested (Bacteriological)	10	1	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}

LABORATORY RESULTS
BACTERIOLOGICAL

Coliform MPN/100 ml. _____ (Confirmed Test); Fecal Coliform MPN/100 ml. _____
Fecal Streptococci:MPN/100 ml. _____ Other _____

ND = NON-DETECTABLE; I. E. BELOW DETECTABLE LIMITS OF METHOD # 4

OCT 30 1980

REPORT SUBMITTED DIV. OF LABORATORIES & EPID.

CHEMICAL AND PHYSICAL ANALYSES (mgs./liter, unless otherwise noted)

	Color (units)	✓	Chloride 33		Sulfate		Other Determinations 412
	Odor (cold)	✓	Suspended Solids 19	✓	Grease & Oil 9.9		Specific conductance
	Turbidity (units)		Ash		Cyanide		TOC 39.9
	pH	✓	Total Solids 272	✓	Chromium Total 0.015K		antimony 0.133
	Acidity to pH 4		Ash		Chromium Hex.		boron
	Alkalinity to pH 4	✓	Total PO_4 1.1		Ortho - PO_4		titanium 0.200 K
	Nitrite N		MBAS	✓	Copper 0.010 K		tin 0.070K ✓ barium 0.050
	Nitrate N	✓	Phenols 0.122	✓	Lead 0.005 K		Silver 0.005 K
	Ammonia N		COD	✓	Arsenic 0.005		nickel 0.025
	Total Kjel. N		Iron	✓	Zinc 0.658		VO Scan ppb

decane 18
p-cymene 12
butyl benzene 3.9

Chlorobenzene 5.9
m,p xylene 8727
o-xylene 1697

Toluene 69
Nonane 71
cumene 9.9
mesitylene 30

BIOCHEMICAL OXYGEN DEMAND (mgs./liter)

Field D.O.		Lab. D.O.			Seed Required:		Yes		No			
Sample Conc. %	PLEASE CIRCLE	0.1	0.2	0.5	1.0	2.0	5.0	10	25	50	75	100
BOD_5												

H1832

Chem-25
Sept. 75

JERSEY STATE DEPARTMENT OF HEALTH
STREAM OR WASTEWATER ANALYSIS

RECEIVED
NOV 3 8 46 AM '80
NJ DEPT. OF HEALTH
DIV WATER SUPPLY
MS&E

Time & Date Received
By Labs
Lab. No.

FIELD INFORMATION

PLEASE TYPE OR PRINT
WITH BALLPOINT PEN

Date of Collection 8-18 19 80
Hour 11:55 A.M. ✓ P.M.

Sample No. C02446

Composite Period GRAB Interval

Collected by CUNNINGHAM, MENNEL, MILLER

Municipality Wharton
Residual Chlorine:
Immediate
Plant LE Carpenter
Developed
Stream
Flow Rate
Location N. Main St.
Temperature
Description and Remarks: Well #3 at top of water column
Waste Sample, concentrated
Solvent

ITEMS CIRCLED BELOW ARE UNSATISFACTORY

Dilutions Requested (Bacteriological)	10	1	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}

LABORATORY RESULTS

BACTERIOLOGICAL

Coliform MPN/100 ml. (Confirmed Test); Fecal Coliform MPN/100 ml. NON DETECTABLE, I. E. BELOW DETECTABLE LIMITS OF METHOD # 4

Fecal Streptococci:MPN/100 ml. Other

OCT 30 1980

REPORT SUBMITTED
DIV. OF LABORATORIES & EQUIP.

CHEMICAL AND PHYSICAL ANALYSES (mgs./liter, unless otherwise noted)

	Color (units)		Chloride		Sulfate		Other Determinations		
	Odor (cold)		Suspended Solids		Grease & Oil		VO Scan / ppb		
	Turbidity (units)		Ash		Cyanide		benzene		
	pH		Total Solids		Chromium Total		toluene		
	Acidity to pH 4		Ash		Chromium Hex.		m,p xylene		
	Alkalinity to pH 4		Total PO_4		Ortho - PO_4		o-xylene		
	Nitrite N		MBAS		Copper		styrene	50,000 L	
	Nitrate N		Phenols		Lead		nonane		
	Ammonia N		COD		Arsenic		cumene		
	Total Kjel. N		Iron		Zinc		decane		
							mesitylene		
							butyl benzene		

BIOCHEMICAL OXYGEN DEMAND (mgs./liter)

Field D.O.		Lab. D.O.			Seed Required:		Yes			No		
Sample Conc. %	PLEASE CIRCLE	0.1	0.2	0.5	1.0	2.0	5.0	10	25	50	75	100
BOD_5												

H1832

Attachment 2

Chem-25
Sept. 75

NEW JERSEY STATE DEPARTMENT OF HEALTH
STREAM OR WASTEWATER ANALYSIS

NOV 3 8
NJ DEPT. OF ENVIRONMENTAL PROTECTION
DIV WATER RESOURCES
MS&E

Time & Date Received 11
By Labs
Lab. No.

PLEASE TYPE OR PRINT WITH BALLPOINT PEN

FIELD INFORMATION

Date of Collection 8-18 19 80
Hour 12:50 A.M. P.M. ✓
Sample No. C04973
Composite Period Interval
Collected by Cunningham, Mennel, Miller
Municipality Wharton
Residual Chlorine:
Plant LE Carpenter Immediate
Developed
Stream
Flow Rate
Location N. Main St.
Temperature
Description and Remarks: Well #4 at mid-depth

ITEMS CIRCLED BELOW ARE UNSATISFACTORY

Dilutions Requested (Bacteriological)	10	1	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}

LABORATORY RESULTS
BACTERIOLOGICAL

Coliform MPN/100 ml. (Confirmed Test); Fecal Coliform MPN/100 ml.
Fecal Streptococci MPN/100 ml. Other

ND = NON-DETECTABLE; I. E. BELOW DETECTABLE LIMITS AS NEEDED

OCT 3 0 1980

REPORT SUBMITTED DIV. OF LABORATORIES & EPID.

CHEMICAL AND PHYSICAL ANALYSES (mgs./liter, unless otherwise noted)

	Color (units)	✓	Chloride 26		Sulfate		Other Determinations 39
	Odor (cold)	✓	Suspended Solids 66	✓	Grease & Oil 5.6		Specific conductance
	Turbidity (units)		Ash		Cyanide		TOC 14.4 J
	pH	✓	Total Solids 318	✓	Chromium Total 0.015 K		antimony 0.133
	Acidity to pH 4		Ash		Chromium Hex.		boron
	Alkalinity to pH 4	✓	Total PO_4 0.39		Ortho - PO_4		titanium 0.200 K
	Nitrite N		MBAS	✓	Copper 0.010 K		tin 0.097 barium 0.24
	Nitrate N	✓	Phenols 0.073	✓	Lead 0.005 K		silver 0.005 K
	Ammonia N		COD	✓	Arsenic 0.009		nickel 0.025
	Total Kjel. N		Iron	✓	Zinc 1.225		VOScan ppb

1,2 dichloroethane 40 tetrachloroethylene 38 O-xylene 1112
Trichloroethylene 19 chlorobenzene 12 NONANE 57
Toluene 13 m,p xylene 5521 cumene 12
p-cymene 8,2

BIOCHEMICAL OXYGEN DEMAND (mgs./liter)

Field D.O.	Lab. D.O.			Seed Required: Yes				No			
Sample Conc. % PLEASE CIRCLE	0.1	0.2	0.5	1.0	2.0	5.0	10	25	50	75	100
BOD_5											

M1632

Hillsborough C

Chem-25
Sept. 75

NEW JERSEY STATE DEPARTMENT OF HEALTH
STREAM OR WASTEWATER ANALYSIS

NOV 3 0 1979

NJ DEPT. OF ENVIRONMENTAL PROTECTION
DIV WATER RESOURCES
HS&E

Time & Date Received 11/
By Labs
Lab. No.

PLEASE TYPE OR PRINT
WITH BALLPOINT PEN

FIELD INFORMATION

Date of Collection 8-18 19 8c

Hour 12:40 A.M. P.M. ✓

Sample No. C04971

Composite Period GRAB Interval

Collected by CUNNINGHAM, MENNEL, MIL

Residual Chlorine:
Immediate
Developed

Municipality Wharton

Plant L E Carpenter

Stream

Flow Rate

Location N. Main St.

Temperature

Description and Remarks: Well #4 at top of water column
Waste Sample, concentrated Solvent

ITEMS CIRCLED BELOW ARE UNSATISFACTORY

Dilutions Requested (Bacteriological)	10	1	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}

LABORATORY RESULTS
BACTERIOLOGICAL

Coliform MPN/100 ml. (Confirmed Test); Fecal Coliform MPN/100 ml.

Fecal Streptococci:MPN/100 ml. Other

CHEMICAL AND PHYSICAL ANALYSES (mgs./liter, unless otherwise noted)

	Color (units)		Chloride		Sulfate		Other Determinations
	Odor (cold)		Suspended Solids		Grease & Oil		VO Scan ppb
	Turbidity (units)		Ash		Cyanide	methylene chloride	50 000
	pH		Total Solids		Chromium Total	1,2 dichloroethane	50 000
	Acidity to pH 4		Ash		Chromium Hex.	Heptane	50 000
	Alkalinity to pH 4		Total PO_4		Ortho - PO_4	1,1,2 trichloroethane	50000
	Nitrite N		MBAS		Copper	dibromochloromethane	50000
	Nitrate N		Phenols		Lead	tetrachloroethylene	50000
	Ammonia N		COD		Arsenic	propylbenzene	50000
	Total Kjel. N		Iron		Zinc	p-cymene	50000

ND = NOT DETECTABLE; I.E. BELOW DETECTABLE LIMITS AS NOTED # 4

BIOCHEMICAL OXYGEN DEMAND (mgs./liter)

Field D.O.	Lab. D.O.			Seed Required: Yes							
Sample Conc. % PLEASE CIRCLE	0.1	0.2	0.5	1.0	2.0	5.0	10	25	50	75	100
BOD_5											

NOV 30 1980
REPORT SUBMITTED
DIV. OF LABORATORIES & CON

H1832

INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED

1152 ROUTE 10 RANDOLPH NEW JERSEY 07869 201-584-0330

REPORT DATE: November 6, 1984

LAB # 35270-A of AB

SAMPLE SOURCE: GEO ENGINEERING SAMPLE ID: MONITORING WELL #1

SAMPLE DATE: 10/22/84 TAKEN BY: GEO ENG. AT LAB DATE: 10/22/84

Parameter	Result
BUTYL BENZENE	N/D
CUMENE	"
DECANE	"
MESITYLENE (1,3,5 TRIMETHYLBENZENE)	"
STYRENE	"

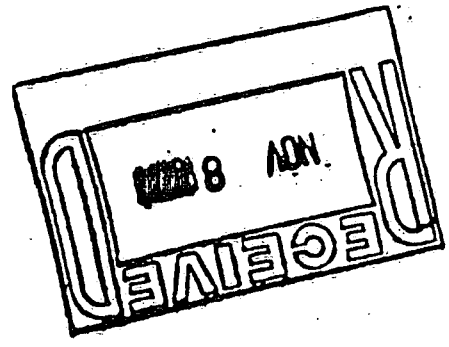
None of the above parameter detected at a sensitivity of 5 mg/l

LT=Less than
ND=Nothing Detected

INDUSTRIAL CORROSION MGMT., INC.

Edwin Tichenor
Vice President

ET/jmg
encl.



INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED

1142 ROUTE 10 RANDOLPH NEW JERSEY 07869 201 584-0330

State Certified drinking water/wastewater Laborato .
ID #14116

REPORT DATE: October 31, 1984

LAB #35270 - B of AB

VOLATILE ORGANICS BY PURGE AND TRAP GAS CHROMATOGRAPHY

SAMPLE SOURCE: GEO ENGINEERING SAMPLE ID MONITORING WELL #1

SAMPLE DATE: 10/22/84 TAKEN BY: GEO ENG. AT LAB DATE: 10/22/84

Compounds detected in parts per billion (micrograms/liter)

CHLOROMETHANE	
BROMOMETHANE	
DICHLORODIFLUOROMETHANE	
VINYL CHLORIDE	
CHLOROETHANE	
METHYLENE CHLORIDE	
ACETONE	
TRICHLOROFLUOROMETHANE	
1,1-DICHLOROETHYLENE	
1,1-DICHLOROETHANE**	
t-1,2-DICHLOROETHYLENE	
CHLOROFORM	
FREON 113	
1,2-DICHLOROETHANE	
t-BUTYL METHYL ETHER	
1,1,1-TRICHLOROETHANE	
CARBON TETRACHLORIDE	
BROMODICHLOROMETHANE	
1,2-DICHLOROPROPANE	
c-1,3-DICHLOROPROPENE*	
t-1,3-DICHLOROPROPENE*	
TCE (TRICHLOROETHYLENE)	
1,1,2-TRICHLOROETHANE*	
DIBROMOCHLOROMETHANE*	
BENZENE	
DIISOPROPYL ETHER	
2-CHLOROETHYLVINYL ETHER	
BROMOFORM	
1,1,2,2-TETRACHLOROETHANE	
PCE (TETRACHLOROETHYLENE)	
TOLUENE	
CHLOROBENZENE	12,277
ETHYLBENZENE	58,788
M-XYLENE	
O-XYLENE	37,332
P-XYLENE	

_____ For the above listed volatile pollutants, nothing detected at 1 ppb sensitivity level.

_____ Unknown peaks detected (Retention time, estimated amount) _____

LT=Less than, GT=Greater than, ND=Not detected

*Compounds elute together. Could be either material.

**Tetrahydrofuran & Phosgene also elute at this point. Numerical results are calculated for 1,1-Dichlorethane only.

NOTE: Compound identification is based upon retention time matches with specific known standards. Confirmatory analysis using GC/MS is required to positively identify any materials and/or amount detected.

INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED

1152 ROUTE 10 RANDOLPH NEW JERSEY 07869 201-584-0330

REPORT DATE: November 6, 1984

LAB # 35271-A of AB

SAMPLE SOURCE: GEO ENGINEERING SAMPLE ID: MONITORING WELL #2

SAMPLE DATE: 10/22/84 TAKEN BY: GEO ENG. AT LAB DATE: 10/22/8

Parameter	Result
BUTYL BENZENE	N/D
CUMENE	"
DECANE	"
MESITYLENE (1,3,5 TRIMETHYLBENZENE)	"
STYRENE	"

None of the above parameter detected at a sensitivity of 1 mg/l

LT=Less than
ND=Nothing Detected

INDUSTRIAL CORROSION MGMT., INC.

Edwin Tichenor
Vice President

ET/jmg
encl.

INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED
1153 ROUTE 10 RANDOLPH NEW JERSEY 07869 201 584-0330

State Certified drinking water/wastewater Laboratc
ID #14116

REPORT DATE: October 31, 1984

LAB #35271 - B of AB

VOLATILE ORGANICS BY PURGE AND TRAP
GAS CHROMATOGRAPHY

SAMPLE SOURCE: GEO ENGINEERING SAMPLE ID MONITORING WELL #2

SAMPLE DATE: 10/22/84 TAKEN BY: GEO ENG. AT LAB DATE: 10/22/84

Compounds detected in parts per billion (micrograms/liter)

CHLOROMETHANE	____
BROMOMETHANE	____
DICHLORODIFLUOROMETHANE	____
VINYL CHLORIDE	____
CHLOROETHANE	____
METHYLENE CHLORIDE	____
ACETONE	____
TRICHLOROFLUOROMETHANE	____
1,1-DICHLOROETHYLENE	____
1,1-DICHLOROETHANE**	____
t-1,2-DICHLOROETHYLENE	____
CHLOROFORM	____
FREON 113	____
1,2-DICHLOROETHANE	____
t-BUTYL METHYL ETHER	____
1,1,1-TRICHLOROETHANE	____
CARBON TETRACHLORIDE	____
BROMODICHLOROMETHANE	____
1,2-DICHLOROPROPANE	____
c-1,3-DICHLOROPROPENE*	____
t-1,3-DICHLOROPROPENE*	____
TCE (TRICHLOROETHYLENE)	____
1,1,2-TRICHLOROETHANE*	____
DIBROMOCHLOROMETHANE*	____
BENZENE	____
DIISOPROPYL ETHER	____
2-CHLOROETHYLVINYL ETHER	____
BROMOFORM	____
1,1,2,2-TETRACHLOROETHANE	____
PCE (TETRACHLOROETHYLENE)	____
TOLUENE	____
CHLOROBENZENE	____
ETHYLBENZENE	2,398
M-XYLENE	17,152
O-XYLENE	6,111
P-XYLENE	

____ For the above listed volatile pollutants, nothing detected at 1 ppb sensitivity level.

____ Unknown peaks detected (Retention time, estimated amount) ____

LT=Less than, GT=Greater than, ND=Not detected

*Compounds elute together. Could be either material.

**Tetrahydrofuran & Phosgene also elute at this point. Numerical results are calculated for 1,1-Dichlorethane only.

NOTE: Compound identification is based upon retention time matches with specific known standards. Confirmatory analysis using GC/MS is required to positively identify any materials and/or amount detected.

INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED

1152 ROUTE 10. RANDOLPH. NEW JERSEY 07869 201-584-0330

REPORT DATE: November 6, 1984

LAB #35272-A of AB

SAMPLE SOURCE: GEO ENGINEERING SAMPLE ID: MONITORING WELL #3

SAMPLE DATE: 10/22/84 TAKEN BY: GEO ENG. AT LAB DATE: 10/22/

Parameter	Result
BUTYL BENZENE	N/D
CUMENE	"
DECANE	"
MESITYLENE (1,3,5 TRIMETHYLBENZENE)	"
STYRENE	"

None of the above parameter detected at a sensitivity of 1 mg/l

LT=Less than
ND=Nothing Detected

INDUSTRIAL CORROSION MGMT., INC.

Edwin Tichenor
Vice President

ET/jmg
encl.

INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED
1152 ROUTE 10 RANDOLPH NEW JERSEY 07869 201-584-0330

State Certified drinking water/wastewater Laboratory
ID #14116

REPORT DATE: October 31, 1984

LAB #35272 - B of AB

VOLATILE ORGANICS BY PURGE AND TRAP GAS CHROMATOGRAPHY

SAMPLE SOURCE: GEO ENGINEERING SAMPLE ID MONITORING WELL #3

SAMPLE DATE: 10/22/84 TAKEN BY: GEO ENG. AT LAB DATE: 10/22/84

Compounds detected in parts per billion (micrograms/liter)

CHLOROMETHANE		1,2-DICHLOROPROPANE	
BROMOMETHANE		c-1,3-DICHLOROPROPENE*	
DICHLORODIFLUOROMETHANE		t-1,3-DICHLOROPROPENE*	
VINYL CHLORIDE		TCE (TRICHLOROETHYLENE)	
CHLOROETHANE		1,1,2-TRICHLOROETHANE*	
METHYLENE CHLORIDE		DIBROMOCHLOROMETHANE*	
ACETONE		BENZENE	
TRICHLOROFLUOROMETHANE		DIISOPROPYL ETHER	
1,1-DICHLOROETHYLENE		2-CHLOROETHYLVINYL ETHER	
1,1-DICHLOROETHANE**		BROMOFORM	
t-1,2-DICHLOROETHYLENE		1,1,2,2-TETRACHLOROETHANE	
CHLOROFORM		PCE (TETRACHLOROETHYLENE)	
FREON 113		TOLUENE	
1,2-DICHLOROETHANE		CHLOROBENZENE	
t-BUTYL METHYL ETHER		ETHYLBENZENE	6,040
1,1,1-TRICHLOROETHANE		M-XYLENE	41,100
CARBON TETRACHLORIDE		O-XYLENE	20,190
BROMODICHLOROMETHANE		P-XYLENE	

_____ For the above listed volatile pollutants, nothing detected at 1 ppb sensitivity level.

_____ Unknown peaks detected (Retention time, estimated amount) _____

LT=Less than, GT=Greater than, ND=Not detected

*Compounds elute together. Could be either material.

**Tetrahydrofuran & Phosgene also elute at this point. Numerical results are calculated for 1,1-Dichlorethane only.

NOTE: Compound identification is based upon retention time matches with specific known standards. Confirmatory analysis using GC/MS is required to positively identify any materials and/or amount detected.

INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED

1152 ROUTE 10 RANDOLPH, NEW JERSEY 07869 201-584-0330

REPORT DATE: November 6, 1984

LAB # 35273-A of AB

SAMPLE SOURCE: GEO ENGINEERING SAMPLE ID: MONITORING WELL # 4

SAMPLE DATE: 10/22/84 TAKEN BY: GEO ENG. AT LAB DATE: 10/22/84

Parameter	Result
BUTYL BENZENE	N/D
CUMENE	"
DECANE	"
MESITYLENE (1,3;5 TRIMETHYLBENZENE)	"
STYRENE	"

None of the above parameter detected at a sensitivity of 1 mg/l

LT=Less than
ND=Nothing Detected

INDUSTRIAL CORROSION MGMT., INC.

Edwin Tichenor
Vice President

ET/jmg
encl.

INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED

1152 ROUTE 10 RANDOLPH NEW JERSEY 07869 201-584-0330

State Certified drinking water/wastewater Laboratory
ID #14116

REPORT DATE: October 31, 1984

LAB #35273 - B of AB

VOLATILE ORGANICS BY PURGE AND TRAP GAS CHROMATOGRAPHY

SAMPLE SOURCE: GEO ENGINEERING SAMPLE ID MONITORING WELL #4

SAMPLE DATE: 10/22/84 TAKEN BY: GEO ENG. AT LAB DATE: 10/22/84

Compounds detected in parts per billion (micrograms/liter)

CHLOROMETHANE		1,2-DICHLOROPROPANE	
BROMOMETHANE		c-1,3-DICHLOROPROPENE*	
DICHLORODIFLUOROMETHANE		t-1,3-DICHLOROPROPENE*	
VINYL CHLORIDE		TCE (TRICHLOROETHYLENE)	
CHLOROETHANE		1,1,2-TRICHLOROETHANE*	
METHYLENE CHLORIDE		DIBROMOCHLOROMETHANE*	
ACETONE		BENZENE	
TRICHLOROFLUOROMETHANE		DIISOPROPYL ETHER	
1,1-DICHLOROETHYLENE		2-CHLOROETHYLVINYL ETHER	
1,1-DICHLOROETHANE**		BROMOFORM	
t-1,2-DICHLOROETHYLENE		1,1,2,2-TETRACHLOROETHANE	
CHLOROFORM		PCE (TETRACHLOROETHYLENE)	
FREON 113		TOLUENE	
1,2-DICHLOROETHANE		CHLOROBENZENE	
t-BUTYL METHYL ETHER		ETHYLBENZENE	511
1,1,1-TRICHLOROETHANE		M-XYLENE	5,000
CARBON TETRACHLORIDE		O-XYLENE	2,145
BROMODICHLOROMETHANE		P-XYLENE	

____ For the above listed volatile pollutants, nothing detected at 1 ppb sensitivity level.

____ Unknown peaks detected (Retention time, estimated amount)

LT=Less than, GT=Greater than, ND=Not detected

*Compounds elute together. Could be either material.

**Tetrahydrofuran & Phosgene also elute at this point. Numerical results are calculated for 1,1-Dichlorethane only.

NOTE: Compound identification is based upon retention time matches with specific known standards. Confirmatory analysis using GC/MS is required to positively identify any materials and/or amount detected.

INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED

1152 ROUTE 10, RANDOLPH, NEW JERSEY 07869 201-584-0330

REPORT DATE: November 6, 1984

LAB # 35274-A of AB

SAMPLE SOURCE: GEO ENGINEERING SAMPLE ID: MONITORING WELL #5

SAMPLE DATE: 10/22/84 TAKEN BY: GEO ENG. AT LAB DATE: 10/22/84

Parameter	Result
BUTYL BENZENE	N/D
CUMENE	"
DECANE	"
MESITYLENE (1,3.5 TRIMETHYLBENZENE)	"
STYRENE	"

None of the above parameter detected at a sensitivity of 1 mg/l

LT=Less than
ND=Nothing Detected

INDUSTRIAL CORROSION MGMT., INC.

Edwin Tichenor
Vice President

ET/jmg
encl.

INDUSTRIAL
CORROSION
MANAGEMENT
INCORPORATED
1152 ROUTE 10 RANDOLPH, NEW JERSEY 07869 201-584-0330

State Certified drinking water/wastewater Labo ory
ID #14116

REPORT DATE: October 31, 1984

LAB # 35274- B of AB

VOLATILE ORGANICS BY PURGE AND TRAP
GAS CHROMATOGRAPHY

SAMPLE SOURCE: GEO ENGINEERING SAMPLE ID MONITORING WELL #5

SAMPLE DATE: 10/22/84 TAKEN BY: GEO ENG. AT LAB DATE: 10/22/84

Compounds detected in parts per billion (micrograms/liter)

CHLOROMETHANE		1,2-DICHLOROPROPANE	
BROMOMETHANE		c-1,3-DICHLOROPROPENE*	
DICHLORODIFLUOROMETHANE		t-1,3-DICHLOROPROPENE*	
VINYL CHLORIDE		TCE (TRICHLOROETHYLENE)	
CHLOROETHANE		1,1,2-TRICHLOROETHANE*	
METHYLENE CHLORIDE		DIBROMOCHLOROMETHANE*	
ACETONE		BENZENE	
TRICHLOROFLUOROMETHANE		DIISOPROPYL ETHER	
1,1-DICHLOROETHYLENE		2-CHLOROETHYLVINYL ETHER	
1,1-DICHLOROETHANE**		BROMOFORM	
t-1,2-DICHLOROETHYLENE		1,1,2,2-TETRACHLORCETHANE	
CHLOROFORM		PCE (TETRACHLOROETHYLENE)	
FREON 113		TOLUENE	
1,2-DICHLOROETHANE		CHLOROBENZENE	
t-BUTYL METHYL ETHER		ETHYLBENZENE	
1,1,1-TRICHLOROETHANE		M-XYLENE	
CARBON TETRACHLORIDE		O-XYLENE	
BROMODICHLOROMETHANE		P-XYLENE	

X For the above listed volatile pollutants, nothing detected at 1 ppb sensitivity level.

____ Unknown peaks detected (Retention time, estimated amount)

LT=Less than, GT=Greater than, ND=Not detected

*Compounds elute together. Could be either material.

**Tetrahydrofuran & Phosgene also elute at this point. Numerical results are calculated for 1,1-Dichlorethane only.

NOTE: Compound identification is based upon retention time matches with specific known standards. Confirmatory analysis using GC/MS is required to positively identify any materials and/or amount detected.

Appendix B

General File
L.E. Carpenter, Wharton

GL
Al Ruff
original sent To file

RECEIVED
OCT 18 9 45 AM '82
DIV WATER MS&E

Victex®
LE CARPENTER AND COMPANY
A DAYCO COMPANY
WHARTON, NEW JERSEY 07885
TELEPHONE 201-366-2020 · CABLE-CARPENCO

October 13, 1982

Mr. Joseph M. Mikulka
Chief, Region IV
Enforcement & Regulatory Services
Division of Water Resources
CN-024
Trenton, New Jersey 08625

RE: In the matter of L.E. Carpenter & Company
Administrative Consent Order.

Dear Mr. Mikulka:

The following is L.E. Carpenter's assessment of how much waste plastisol remains at the L.E. Carpenter site located at 170 N. Main Street, Wharton, N. J. Included are the characteristics of such remaining material, potential hazard, and the basis for such an assessment.

FINDINGS

(1) Excavation of the impoundment area required soil removal to a depth twice as great as estimated (8 to 12 feet) and 50% larger in area (approximately 11,000 sq. ft.) than projected by initial investigation from Wehran Engineering. This, in main part, was due to trench overflow and continued contact of soil by liquids eminating from buried drums which were ruptured during the removal process.

(2) Based on a visual examination of the materials recovered from the impoundment, approximately 85-90% appeared to be soil. The majority of drums which were found stacked along the containment wall area of the tank farm contained liquid plastisol and solvent.

(3) At the conclusion of the excavation, no drums or liquid plastisol waste areas were observed and the soil for the most part appeared to partially contain a dry clay like plastisol in a sporatic narrow and shallow vein so as to indicate fringe areas where previous overflow may have occurred. These areas apparently were covered by soil subsequent to plastisol overflow. Probing of these fringe areas was performed when the excavation had reached the point that it became apparent the bulk of waste plastisol was removed and only non liquid crumbly or clay like remnants remained.

It was estimated that the residue would not represent more than 2 - 3% of the total waste in the impoundment, based on the sporatic shallow nature of the remaining material and the fact that approximately 6,000 sq. ft. at a depth of 3 or 4 feet remained in question. Removal of said material would possibly require the excavation of an additional 900 cu. yd. and probably add 20-30% to the total cost of excavation.

(4) Excavation had shown the solid waste to be above the ground water table.

L.E. Carpenter feels that it should be given some consideration in its request for employing a cost benefit principle on any remaining residue. Wehran Engineering's original study indicated no significant waste areas outside the impoundment site already excavated. Further investigation of the site was done on October 19, 1981 when Wehran Engineering excavated four exploratory backhoe test pits concurrently with the installation of monitoring well #5. As is mentioned in Wehran's report, these pits were located on a line parallel to the Rockaway River and at approximately 70 foot intervals between monitoring wells #3 and #4. Observation of the soil stratification in these pits showed no evidence of a plastisol waste. L.E. Carpenter has excavated and disposed of 3500 cu. yd. (three times original estimates) of plastisol waste and soil at a cost of approximately $1,000,000.

One of DEP's initial concerns was that the bulk of the contamination could "break loose" and find its way to the Boonton Reservoir. This concern should now be alleviated since not only the bulk of the material has been removed, but the quality of the remaining material in the ground shows it to be solid in nature and not amenable to movement.

L.E. Carpenter feels that the ground water quality question should now be addressed as outlined in the Administrative Consent Order.

Very truly yours,

L.E.CARPENTER & COMPANY

Frank Aron
Technical Director

FCA:AMR

PROPOSED
GROUNDWATER DECONTAMINATION
PROGRAM

for

L. E. CARPENTER AND COMPANY
WHARTON, NEW JERSEY

Prepared by
GeoEngineering, Inc.
100 Ford Road
Denville, NJ 07834

October 31, 1983
Our File No. 83522

Appendix C

Spread more than
1 Drive Elevation

This report presents our recommendations for separate remedial programs to recover solvents and to decontaminate ground water beneath the L. E. Carpenter property in Wharton, NJ. These recommendations are based upon data from previous investigations at the site which you have furnished to us, plus our own pumping tests and data analyses to determine aquifer characteristics. The intent of this report is to present for review and approval conceptual plans and a proposed sequence of activities to meet Consent Order requirements. Following that approval, more detailed design and implementation can proceed immediately.

EXISTING SITE CONDITIONS

Aquifer Characteristics

On October 11, 1983, pumping tests were performed at wells W-6, 7, 8, and 10. The tests were performed using a centrifugal pump discharging to the infiltration gallery. The drawdown and recovery at each pumping well was monitored using high speed electronic data logging equipment. The remaining wells were monitored manually using an electric water level probe.

The acquistion of early time data allowed the use of type curve analyses in the determination of the aquifer characteristics. The test results indicate permeability values of approximately 40 gpd/sq. ft. at wells W-6 and 10, 100 gpd/sq. ft. at well W-8 and 400 gpd/sq. ft. at well W-7. Considering that the wells tested are within a 100 foot radius, the permeability value at well W-7 would at first appear to be anamolous. However, considering that all the wells were constructed in a like manner using air rotary techniques and screened to the same depths, that the testing procedure was similar at all wells, and that pumping tests performed by others at well W-7 yielded similar results, it is assumed that the data is valid. Therefore, the aquifer characteristics, at least within the limited area in question, must be considered quite variable.

With the above in mind, analysis indicates that at a pumping rate of 10 gpm at W-7 the drawdown influence would extend approximately 150 to 200 feet away after 30 days of pumping.

Figure 1 represents the piezometric contours generated from water level measurements made on October 27, 1983. These are not contours of the solvent/groundwater interface. They are the water levels that would be present if the solvent were not depressing the water level and are the best indicator of the direction of groundwater flow. In general, groundwater movement is from the Rockaway River onto the site in both a northerly and

easterly direction with eventual discharge to the drainage channel along the eastern property line. Based on a permeability of 145 gpd/sq. ft. (the average of the pumping test results), a porosity of 30% and the gradient between W-9 and W-10 the average velocity of the ground water entering the site is estimated at 450 feet per year.

Floating Solvent

Figure 2 presents and isopach map of solvent-saturated soil thickness, based on solvent thicknesses measured in the wells on October 11, 1983. The thickness of solvent measured in a monitoring well is usually greater than the thickness of solvents in the soil adjacent to the well. The thicknesses vary as a function of the specific gravity ratio of water and the solvent in question. The isopach reflects the thickness of solvent in the soil and is based on a specific gravity of solvent of 0.87. Table 1 tabulates the measurements and resulting thicknesses and elevations. Considering the volume indicated by the isopachs and assuming a specific recovery of 20%, we estimate that approximately 20,000 gallons of solvents could be recovered.

Groundwater Quality

Chemical analyses of groundwater samples collected and tested in accordance with Consent Order requirements have detected significant amounts of Xylene, Ethyl Benzine, and Toluene in the groundwater at monitor well locations. At the time of this investigation, this analytical data was the only chemical information available. The water samples tested by the laboratory were obtained from the monitor wells by a bailing technique; a plastic bailer was lower into the well to collect a sample from below the floating solvent layer, retrieved from the well, and its contents emptied into a sample container.

In our opinion, this sampling technique inevitably contaminates the groundwater sample and, therefore, the laboratory test results cannot be reliable representations of the chemical composition of the groundwater beneath the floating solvent layer. In order to produce reliable analytical results, the groundwater sample would have to be obtained by a technique which isolates the groundwater sample from the overlying solvents in the process of sample acquistion.

PROGRAM TO REMOVE SOLVENTS

The objectives of this program are: (1) to remove the layer of solvents floating on the surface of the water table (without regard to the thickness of the layer); (2) to control the boundaries of the solvent layer during the removal program, and; (3) to prevent off-site movement of the floating layer during the recovery operations. This program is based on the current information about solvent layer thickness and distribution, as shown in Figure 2.

Equipment and Procedure

We recommend that the solvent recovery program be based upon the removal of floating product from the existing group of 2" and 4" wells, and that it be accomplished by use of the "AUTO-SKIMMER", an automatic skimming and bailing device, manufactured by R. E. Wright Associates, Inc. This recommendation is based upon the ability of this device to recover floating hydrocarbons from wells of 2" or greater diameter and to remove any thickness of floating solvent. The portability of this device is also an advantage in this application, because the device may be quickly and easily moved from one monitor well to another as a means to respond to changing thickness or location of the floating layer during the removal program.

Our recommendation of this equipment is based upon discussions with the manufacturer, inspection of units in operation in the field, and discussions with others who have experience in application of the device to similar problems.

The AUTO-SKIMMER should be positioned initially at well W-10, to begin solvent recovery nearest the maximum solvent thickness. Initial solvent recovery would be undertaken at a rate of 200 gallons per week or less, with the objective of matching the removal of solvent to the rate of its replenishment by return flow from the edges of the solvent layer back toward the water table depression at the location of maximum solvent thickness.

After some period of initial solvent recovery without groundwater pumping, it will probably be necessary to enhance the water table depression at the recovery well by separate pumping of groundwater from that well. The pumping rate will be in the range of 10 to 30 gpm, depending upon which recovery well is being utilized, and upon how much control or depression of the water table is necessary to contain the floating solvent layer. This containment will be enhanced, in part, by the recharge flow from the Rockaway River, which is already having its effect as shown in Figures 1 and 2. A similar, temporary effect of containment by recharge flow can be established at the property line boundary, particularly between monitor wells 2 and 3, by constructing a recharge trench, into which the water table depression pump discharges its flow. This will create a

roundwater "mound" beneath the recharge trench, thus preventing low away from the solvent recovery area into the drainage ditch djacent to the property.

olvent Disposal

The AUTO-SKIMMER contains an oil-water separator unit. ne amount of water recovered with the floating solvent can inimized by adjusting the frequency of bailing cycles, articularly when solvent thickness is small. The water eparated from the solvent is usually returned to the well, xcept when the proportion of water to the solvent is large, uch as in the removal of a solvent film during the final stages f clean up.

The solvent recovered by this unit is pumped to a orage tank, which is equipped with a level sensor control to event spillage by overflowing.

We recommend a solvent storage tank of at least 5,000 llons capacity. This will match the tank truck capacity of st waste-hauling contractors. The recovered solvent would be llected periodically by such a contractor and taken to a censed treatment/disposal facility.

nitoring Performance

Thickness of the floating solvent layer should be asured in the 2" and 4" wells weekly during the initial lvent recovery operation. These initial measurements will cilitate the adjustment of the solvent recovery rate so as to minish the boundaries of the floating layer slowly enough to nimize its breaking into several separate layers. After veral weeks of experience, it should be adequate to measure oduct thickness in the well monthly, except when the recovery erations are moved to a new well, when weekly frequency may be propriate to measure effectiveness.

Concurrent with measurements of solvent thickness, ezometric levels in the water table aquifer will be measured rectly and calculated were necessary in order to monitor true ezometric gradients and flow directions in the aquifer. This ll be of special significance during pumping to depress the ter table elevation at the recovery well location.

UNDWATER DECONTAMINATION

The Consent Order requires "the removal of dissolved atile organic compounds from the groundwater". It is sonable to assume that solution of solvent compounds in the undwater occurs at the solvent-water interface and that solved solvents may exist in a zone of groundwater ediately below this interface. Obviously, the character of decontamination program depends primarily upon the thickness

Appendix D

Form DWR-143
7/81

NEW JEI) DEPARTMENT OF ENVIRONMENTAL PI)CTION
DIVISION OF WATER RESOURCES
ENFORCEMENT & REGULATORY SERVICES

COMPLIANCE EVALUATION INSPECTION
PUBLIC COMMUNITY WATER SUPPLY

DATE July 17, 1984

GENERAL INFORMATION

PURVEYOR/
FACILITY Dover Water Department

FILE LOCATION Town of Dover, Morris County — PW-ID # 1409001

MAIL NG ADDRESS 37 No. Sussex St. Dover, New Jersey

ADM N. Frank Bujarski, Pres. Water Comm. — REQUIRED T 3 / LICENSES W 1

BUS ESS

TEL PHONE # Admin. 201-366-1221 Licensed Operators: T 2 Andrew Du Jack W 1 Same.

FACILITY DESCRIPTION

SOUR ES: descriptions, locations, capacities(mgd): Well # 1 2.45 mgd Well # 3 1.44 mgd
Well # 5 2.45 mgd - all located at Princeton Ave.
Well # 4 1.57 mgd - not in use due to V.O. contamination

Est Tot Eff Cap: 6.34 mgd

TREATMENT: source, type, capacities(mgd): Gas chlorination

Est Tot Eff Cap: 6.34 mgd

FINISHED WATER STORAGE: descriptions, locations, capacities(mg): 3 ground tanks:
1. Locust St. 1.5 mg
2. Crane Hill Rd 2.0 mg
3. Highview Terrace 0.75 mg

Est Tot Cap: 4.25 mg

EMERGENCY INTERCONNECTIONS: descriptions, available gallonage(mgd):
Randolph Twp. M.U.A. 6" & 8" mains
Rockaway Twp. 6" main
Wharton Twp. 4" & 6" mains

Est Tot Avail: 4.25 mgd

AUXILIARY POWER: location, type, capabilities: Gas Generators

NJDEP - DIVISION OF WATER RESOURCES
PUBLIC COMMUNITY WATER SUPPLY INSPECTION

#1409002

DELIVERY INFORMATION

PLANT DELIVERED WATER (mgd,month,year) Max 3.9 7/83 Min 2.5 5/83 Annual Average 2.98

BULK PURCHASES (provider,mgd) —

BULK SALES (customer, mgd) —

NUMBER OF SERVICES 5507 % METERED 100

MUNICIPALITIES SERVED (est. services in each) Dover Rockaway Twp Randolph Twp Victory Gardens Wharton

TOTAL ESTIMATED POPULATION SERVICED 22,000

CURRENT/RECENT WATER RESTRICTIONS None

NEW CONSTRUCTION (Project Numbers) None

DISTRIBUTION MAINS: Sizing 2" (min) to 16" (max)
Pressures 30 psi (min) to 160 psi (max)
Hydrants/Flushing Program Yes

MONITORING & REPORTING

PARAMETER(S)	FREQUENCY REQUIRED	FREQUENCY PERFORMED
Coliform	25/month	25/month
Inorganics	every 3 years	Done 3/84
Nitrate	every 3 years	Done 3/84
Trihalomethanes	Quarterly	Quarterly
Organics		
Turbidity		
Secondary Regs	every 3 years	Done 6/84
Radiological	every 4 years	Done 1982
V.O.	4/6 months/each well	Done 1-84

NAME OF LABORATORY Lake Laboratory CERTIFICATION # 14046

ADDRESS Wharton, New Jersey

COMPLIANCE EVALUATION

SOURCE DEFICIENCIES None

TREATMENT DEFICIENCIES None

FORM 87

DEPARTMENT OF CONSERVATION
AND ECONOMIC DEVELOPMENT
DIVISION OF WATER POLICY & SUPPLY

Permit No. _____
Application No. _____
County _____

WELL RECORD

1. OWNER Town of Dover ADDRESS Dover, N.J.
Owner's Well No. 5 SURFACE ELEVATION _____ Feet (Above mean sea level)
2. LOCATION Princeton Ave., Dover N.J.
3. DATE COMPLETED 9-10-71 DRILLER Layne New York Co. Inc.
4. DIAMETER: top 18 Inches Bottom 18 Inches TOTAL DEPTH 64 Feet
5. CASING: Type Steel Diameter 18 Inches Length 44 Feet
6. SCREEN: Type Johnson Size of Opening #80 Diameter 12 Inches Length 20 Feet
Range in Depth { Top 44 Feet / Bottom 64 Feet Geologic Formation _____
Tail piece: Diameter — Inches Length — Feet
7. WELL FLOWS NATURALLY — Gallons per Minute at — Feet above surface
Water rises to — Feet above surface
8. RECORD OF TEST: Date 9-29-71 Yield 1529 Gallons per minute
Static water level before pumping 14 Feet below surface
Pumping level 29 feet below surface after 8.77 hours pumping
Drawdown 15 Feet Specific Capacity 102 Gals. per min. per ft. of drawdown
How Pumped Vert. Turbine How measured Orifice
Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
Type None Yet Mfrs. Name _____
Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR Public Supply AMOUNT { Average _____ Gallons Daily / Maximum _____ Gallons Daily
11. QUALITY OF WATER Analysis Attached Sample: Yes ___ No. ___
Taste _____ Odor _____ Color _____ Temp. _____ °F
12. LOG Log Attached Are samples available? _____
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)
13. SOURCE OF DATA Layne New York Co. Inc.
14. DATA OBTAINED BY D.C. Ward Date 12-16-71

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.)

LAYNE-NEW YORK CO., INC.

1250 WEST ELIZABETH AVE., LINDEN, N. J.

LOG OF WELL

Well No. #5 Job No. J-295-71 Test No.

Log of Well for (Owner) Dover Water Dept

Address Princeton Ave Dover, N.J.

Representative, if any

Well Located at Princeton Ave Dover, NJ in County, State of Morris Jersey

Furnish sketch of location Date Drilling started 8/16/71 Date Test Hole Completed 9/18/71

Total depth to bottom of Well 64 Diameter Test Hole 18 X 24 Elevation at Ground Level, if available

Elevation at Ground Level, if available Distance from where measurements were taken to ground level 0'

Water stands when not pumping 12' feet 6" inches from the surface of the ground

All Measurements taken from Ground level

THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATA	Length of Core Taken	FORMATION FOUND EACH STRATUM	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATA	Length of Core Taken	FORMATION FOUND EACH STRATUM
0' to 15'			Fill and silt				
15' to 25'			Small cobbles, brown sand and silt				
25' to 40'			Small cobbles and gravel				
40 to 65'			Big cobbles and gravel				
65 to 66'			Big boulder				
66 to 67'			fine sand and silt				
67' to 73'			Green clay				

Remarks and opinion of Test

Drilled through boulder to check formation with 8 in. tool hole

CHECK TYPE OF RIG USED

Reverse Rotary
Cable Tool
Wash
Other?

SM-10-66WP

John Lucas
Driller

25-2-639

FORM 87

DEPARTMENT OF CONSERVATION
AND ECONOMIC DEVELOPMENT
DIVISION OF WATER POLICY & SUPPLY

Permit No. 25-13647
Application No. 1217
County _____

WELL RECORD

1. OWNER Board of Water Commissioners Town of Dover ADDRESS Dover, New Jersey
   Owner's Well No. New Well #1 SURFACE ELEVATION 600 Feet (Above mean sea level)
2. LOCATION Princeton Ave. Well Field, Dover, N.J.
3. DATE COMPLETED 4/1/66 DRILLER Burrows Well Drilling Co., Inc.
4. DIAMETER: top 18 Inches Bottom 18 Inches TOTAL DEPTH 65 Feet
5. CASING: Type Steel Diameter 24" 18" Inches Length 38'-8" 47' Feet
6. SCREEN: Type SS Size of Opening 2'-50 Slot 20'-110 Slot Diameter 18" Inches Length 22 Feet
   Range in Depth { Top _____ Feet / Bottom _____ Feet } Geologic Formation _____
   Tail piece: Diameter _____ Inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface
   Water rises to _____ Feet above surface
8. RECORD OF TEST: Date 3/28-31/66 Yield 1,711 Gallons per minute
   Static water level before pumping 11' 3" 11' 3" Feet below surface
   Pumping level 24' 7 3/4" feet below surface after 72 hours pumping
   Drawdown 13' 4 3/4" Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
   How Pumped Turbine Pump How measured Orifice 8 x 10
   Observed effect on nearby wells None
9. PERMANENT PUMPING EQUIPMENT: Not Installed
   Type _____ Mfrs. Name _____
   Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
   Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
   Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR Public Supply AMOUNT { Average _____ Gallons Daily / Maximum _____ Gallons Daily }
11. QUALITY OF WATER _____ Sample: Yes XXX No. _____
    Taste _____ Odor _____ Color _____ Temp. 50 °F
12. LOG Over (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy) Are samples available? Yes
13. SOURCE OF DATA Drillings
14. DATA OBTAINED BY Burrows Well Drilling Co., Inc. Date 4/4/66

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated

Hard pan
& boulders

25

Dirty Sand

35

Cleaner Sand & Gravel

45

Coarser Sand & Gravel

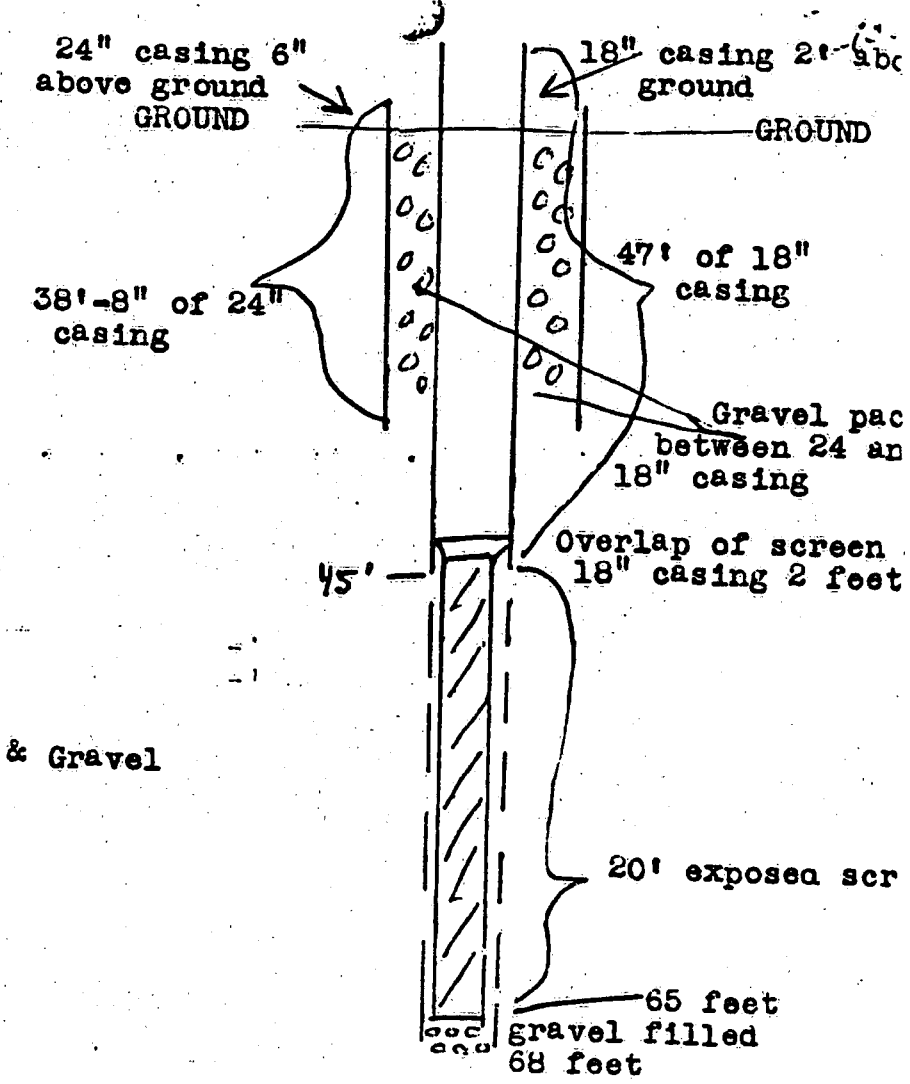
55

W
A Clean & Very coarse Sand & Gravel
T 60
E Finer Sand with clay
R

64

Sandy Clay, Hard Pan

68



FORM 87

DEPARTMENT OF CONSERVATION
AND ECONOMIC DEVELOPMENT
DIVISION OF WATER POLICY & SUPPLY

Permit No. _____
Application No. _____
County _____

WELL RECORD

1. OWNER L. E. Carpenter and Company, Inc. ADDRESS 170 North Main Street, Wharton, N. J.
   Owner's Well No. _____ SURFACE ELEVATION _____ Feet (Above mean sea level)
2. LOCATION 170 North Main Street, Wharton, New Jersey
3. DATE COMPLETED 4-8-63 DRILLER D. F. Well Drilling Company, Inc.
4. DIAMETER: top 8 Inches Bottom 8 Inches TOTAL DEPTH 48 Feet
5. CASING: Type Solid Steel Diameter 8 Inches Length 44 Feet
6. SCREEN: Type _____ Size of Opening ___ Diameter _____ Inches Length _____ Feet
   Range in Depth { Top _____ Feet / Bottom _____ Feet } Geologic Formation _____
   Tail piece: Diameter _____ Inches Length _____ Feet
7. WELL FLOWS NATURALLY _____ Gallons per Minute at _____ Feet above surface
   Water rises to _____ Feet above surface
8. RECORD OF TEST: Date _____ Yield _____ Gallons per minute
   Static water level before pumping _____ Feet below surface
   Pumping level _____ feet below surface after _____ hours pumping
   Drawdown _____ Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
   How Pumped _____ How measured _____
   Observed effect on nearby wells _____
9. PERMANENT PUMPING EQUIPMENT:
   Type Installed by Others Mfrs. Name _____
   Capacity _____ G.P.M. How Driven _____ H.P. _____ R.P.M. _____
   Depth of Pump in well _____ Feet Depth of Footpiece in well _____ Feet
   Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size ___ Inches
10. USED FOR _____ AMOUNT { Average _____ Gallons Daily / Maximum _____ Gallons Daily }
11. QUALITY OF WATER _____ Sample: Yes ____ No. ____
    Taste _____ Odor _____ Color _____ Temp. _____ °F
12. LOG _____ Are samples available? _____
    (Give details on back of sheet or on seperate sheet. If electric log was made, please furnish copy)
13. SOURCE OF DATA _____
14. DATA OBTAINED BY Donald J. McBride Date May 9, 1963

(NOTE: Use other side of this sheet for additional information such as log of material

60	-	10 feet	-	Large Stone and Gravel	
10	-	20 "	-	Sand and Gravel	
20	-	25 "	-	Large Gravel stones and Sand	150 - 200 G.P.M.
25	-	40 "	-	Large Gravel stones and Sand	
40	-	48 "	-	Large Gravel and Coarse Sand	400 plus G.P.M/

Form DWR-143
7/81

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
ENFORCEMENT & REGULATORY SERVICES

COMPLIANCE EVALUATION INSPECTION
PUBLIC COMMUNITY WATER SUPPLY

DATE FEBRUARY 2, 1

GENERAL INFORMATION

PURVEYOR/FACILITY: WHARTON WATER DEPARTMENT

FILE LOCATION: WHARTON BOROUGH (more.) PW-ID #: 1439001

MAILING ADDRESS: 180 WEST CENTRAL AVENUE WHARTON N.J. 07885

ADMIN.: ANTHONY GUADAGNINO REQUIRED LICENSES: T-2 Wm. Hust; W-1 " "

BUSINESS TELEPHONE # Admin.: (201) 361-8444 Licensed Operators: T (201) 366-3573 W —

FACILITY DESCRIPTION

SOURCES: descriptions, locations, capacities(mgd): THREE WELLS - WELL #1 W CENTRAL AVE. (0.72); WELL #2 W. CENTRAL AVE. (0.79); WELL #3 EILEEN COURT (1.00)

Est Tot Eff Cap: 2.51

TREATMENT: source, type, capacities(mgd): CHLORINATION AND FLUORIDATION AT ALL WELLS

Est Tot Eff Cap: 2.51

FINISHED WATER STORAGE: descriptions, locations, capacities(mg): TWO GROUND TANKS ON IRONDALE ROAD - STEEL GROUND TANK (1.00); CONCRETE GROUND TANK (0.50)

Est Tot Cap: 1.00

EMERGENCY INTERCONNECTIONS: descriptions, available gallonage(mgd): TWO INTERCONNECTIONS WITH DOVER WATER DEPARTMENT - BAKER AVE. 6" AND WALNUT ST. A 4"

Est Tot Avail: —

AUXILIARY POWER: location, type, capabilities: A DIRECT DRIVE GASOLINE ENGINE FOR WELL #1, A PORTABLE GENERATOR FOR CHLORINATION. A DIRECT DRIVE DIESEL ENGINE AND GENERATOR FOR WELL #3 AND CHLORINATION.

.72
1.
1.00

NJDEP - DIVISION OF WATER RESOURCES
PUBLIC COMMUNITY WATER SUPPLY INSPECTION

DELIVERY INFORMATION

PLANT DELIVERED WATER (mgd,month,year) Max 1.03 (7/83) Min 0.07 (12/83) Annual Average 0.74 (198

BULK PURCHASES (provider,mgd) NONE

BULK SALES (customer, mgd) NONE

NUMBER OF SERVICES 1750 % METERED 100

MUNICIPALITIES SERVED (est. services in each) WHARTON BOROUGH 1735 ; ROCKAWAY TOWNSHIP 12 ; MINE HILL TOWNSHIP 3

TOTAL ESTIMATED POPULATION SERVICED 5500

CURRENT/RECENT WATER RESTRICTIONS NONE

NEW CONSTRUCTION (Project Numbers) NONE

DISTRIBUTION MAINS: Sizing 4" (min) to 24" (max)
Pressures 50 LBS (min) to 100 LBS (max)
Hydrants/Flushing Program YES/YES ONCE PER YEAR

MONITORING & REPORTING

PARAMETER(S)	FREQUENCY REQUIRED	FREQUENCY PERFORMED
Coliform	6 PER MONTH	7 PER MONTH
Inorganics	1 PER 3 YRS	1 PER 3 YRS
Nitrate	1 PER 3 YRS	1 PER MONTH
Trihalomethanes	—	—
Organics	—	—
Turbidity	—	1 PER MONTH
FLUORIDE CHECKING	DAILY	7 PER DAY
RADIONUCLIDES	EVERY 4 YEARS	EVERY 4 YEARS
CORROSIVITY	BY 3/83	DONE 10/26/87 NOT SUBMITTED
SECONDARY	EVERY 3 YEARS	ONLY PARTIALLY DONE

NAME OF LABORATORY DUNCAN LABORATORY CERTIFICATION # 14020

ADDRESS 42 BAKER AVENUE, DOVER, N.J. 07801

COMPLIANCE EVALUATION

SOURCE DEFICIENCIES WELL #3 CONTAINS 21 PPB OF FUEL OIL

TREATMENT DEFICIENCIES THE AIR PRESSURE RELIEF LINE FOR WELL #3 IS NOT SCREENED; THE WELL #3 CHLORINE VENT IS NOT SCREENED.

State of New Jersey
JOHN W. GASTON JR. P.E.
DIRECTOR
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625
DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

MEMORANDUM

TO: Lance Miller, Superfund Coordinator

FROM: William Kramer through William F. Althoff and Haig Kasabach, Acting State Geologist, NJ Geological Survey

SUBJECT: L.E. Carpenter Superfund Submittal- Supplemental Information

The following information is being submitted at the request of Bob Hayton (HSMA) to support listing of the L.E. Carpenter (DAYCO) site in Wharton on the CERCLA National Priorities List.

1. At least one abandoned production well is present at the L.E. Carpenter facility. Well No. 1 is 48 feet deep and has a reported yield of 400 gpm (NJDEP Well Record, 1963). The driller's log does not indicate any type of aquitard from the surface to a depth of 48 ft. It is not known why this well was taken out of service. The fact that a production well is located at this facility together with the reported yield, indicates the relatively high permeability of this glacial outwash aquifer and its potential for future use.

2. The aquifer underlying the L.E. Carpenter site has been designated by USEPA as a Sole Source Aquifer under Section 1424(e) of the Safe Drinking Water Act. (Federal Register Vo. 49, No. 16, 1/24/84). In its decision to designate the Unconsolidated Quaternary Aquifer in the Rockaway River area, EPA clearly took potential future use of the aquifer into consideration.

> "There are no existing alternative drinking water sources or combination of sources, which would provide 50% or more of the drinking water to the

designated area, nor is there any reasonably available alternative future source capable of supplying the drinking water demands of the Rockaway River Basin Area."

It is inconsistent for EPA to consider only current use of an aquifer when considering Superfund applications and use both current and future use in making Sole Source Aquifer determinations. Superfund should therefore consider both current and potential future use, particularly in Sole Source Aquifer areas.

3. EPA assumes that the presence of a river represents an aquifer boundary (i.e., equipotential boundary or a boundary of prescribed head). Several assumptions underlie EPA's position and need to be examined.

Traditionally, rivers have been considered natural boundaries to ground-water flow, with the aquifers on either side of the river behaving independently of one another. Ferris et al (1962) outlines the reasoning for this:

> "For thin aquifers, the effects of vertical flow components are small a relatively short distance from the stream, and if the stream stage is not lowered by the flow to the real well, there is established the boundary condition that there shall be no drawdown along the stream position. Therefore, for most field situations it can be assumed (for practical purposes) that the stream is fully penetrating and equivalent to a line source at constant head."

The critical assumption in Ferris's definition is full penetration of the river. Obviously, one would be hard pressed to find a fully penetrating river under field conditions. The Rockaway River at Wharton is a partially penetrating river. Assuming a saturated thickness of 60 ft and a river depth of 1 1/2 ft, the Rockaway actually penetrates only 2.5% of the aquifer.

For the case of a partially penetrating river (the Rockaway) another consideration in establishing aquifer boundaries is whether the river bed is partially clogged with silts or clay. If this is the case, a semipervious or mixed boundary condition will exist limiting the flow of water from the river to the aquifer or vice versa.

Bear (1979) points out that a slightly penetrating river with a semipervious bed does not necessarily act as a boundary and should be regarded instead as a source or sink in a ground-water flow model.

Furthermore, if an aquifer boundary has sufficient permeability, ground water may flow into or out of the aquifer. The magnitude and direction of flow across the boundary are governed by hydraulic conductivity and the distribution of hydraulic head about the boundary (Bear, 1979). It is therefore possible for ground-water to flow beneath the river "boundary" from one part of the aquifer to another. In fact this has been demonstrated 5500 ft. south of L.E. Carpenter at the Dover Municipal Wellfield. Observations by the USGS (Rheaume, personal communication, 1985) show water level fluctuations up to one ft in observation wells 270 ft west of the Rockaway River due to pumping effects from the Dover Wellfield located EAST of the Rockaway River.

In another case being handled by this office a plume of contaminated ground water in a bedrock aquifer was found to pass beneath a brook. Although traces of PCE were found in the brook, the bulk of the plume remained in the aquifer and passed unaffected beneath the brook. The brook was not an aquifer boundary.

The selection of aquifer "boundaries" should not be based solely on geographic features such as rivers. Although a river can act as a recharging boundary, whether this condition holds over the entire saturated thickness of the aquifer beneath the river will depend on many factors, primarily vertical distribution of hydraulic head, permeability of the river bed, locations of pumping centers and pumping rates, aquifer thickness, width and depth of penetration of the river, and the hydraulic conductivity of the aquifer materials.

With regard to potential targets, unpublished work by the USGS (Rheaume, personal communication 1985) indicates that municipal water supply wells situated along the Rockaway River derive some of their recharge from the river. For example, Wharton wells No. 1 and 2 derive about 25-50% of their recharge from the river. These two wells are located 4000 ft upstream of L.E. Carpenter. Dover wells No. 1, 3 and 5 derive 10-20% of their recharge from the river. These wells are located 5500 ft downstream of L.E. Carpenter. Estimates of river recharge to Wharton well No. 3 (4500 ft

downstream) of L.E. Carpenter were not determined since this well is currently not in service.

There is insufficient data to draw conclusions about the river/aquifer relationship. A sheen is present on the river 90 feet SSE of Well No. 3. The Rockaway River abuts 900 ft of the L.E. Carpenter property, but only one river stage measurement point has been established along the river. In addition product thickness in the monitor wells distorts the actual water table elevation. Finally, if a semipervious layer is present in the river bed, then a delayed response would be expected between change in river stage and its effect on water table elevations.

WK:clb

cc: Bob Hayton, HSMA
Greg Cunningham, Northern Region Enforcement
HK/WFA/File

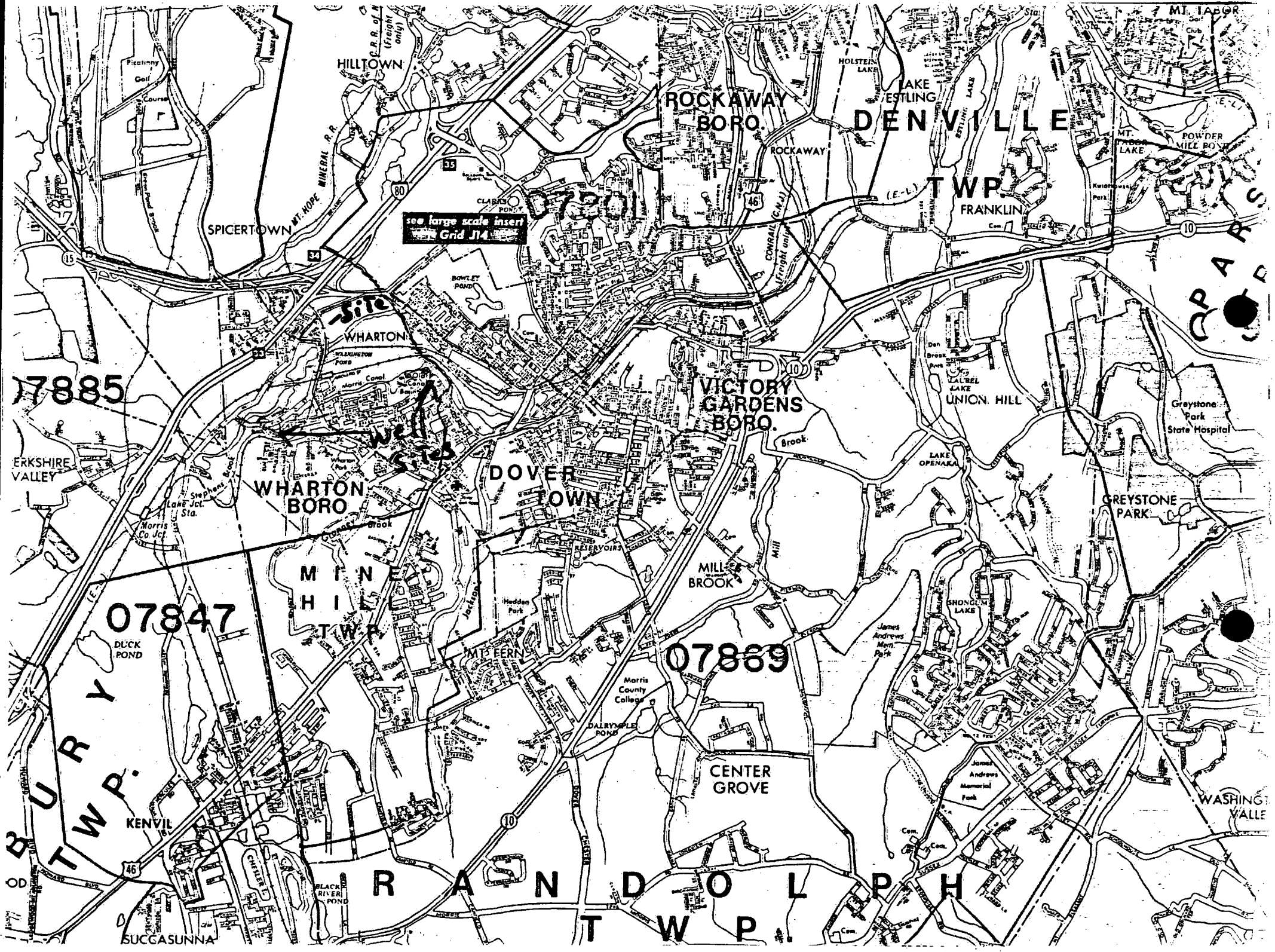
Attachment

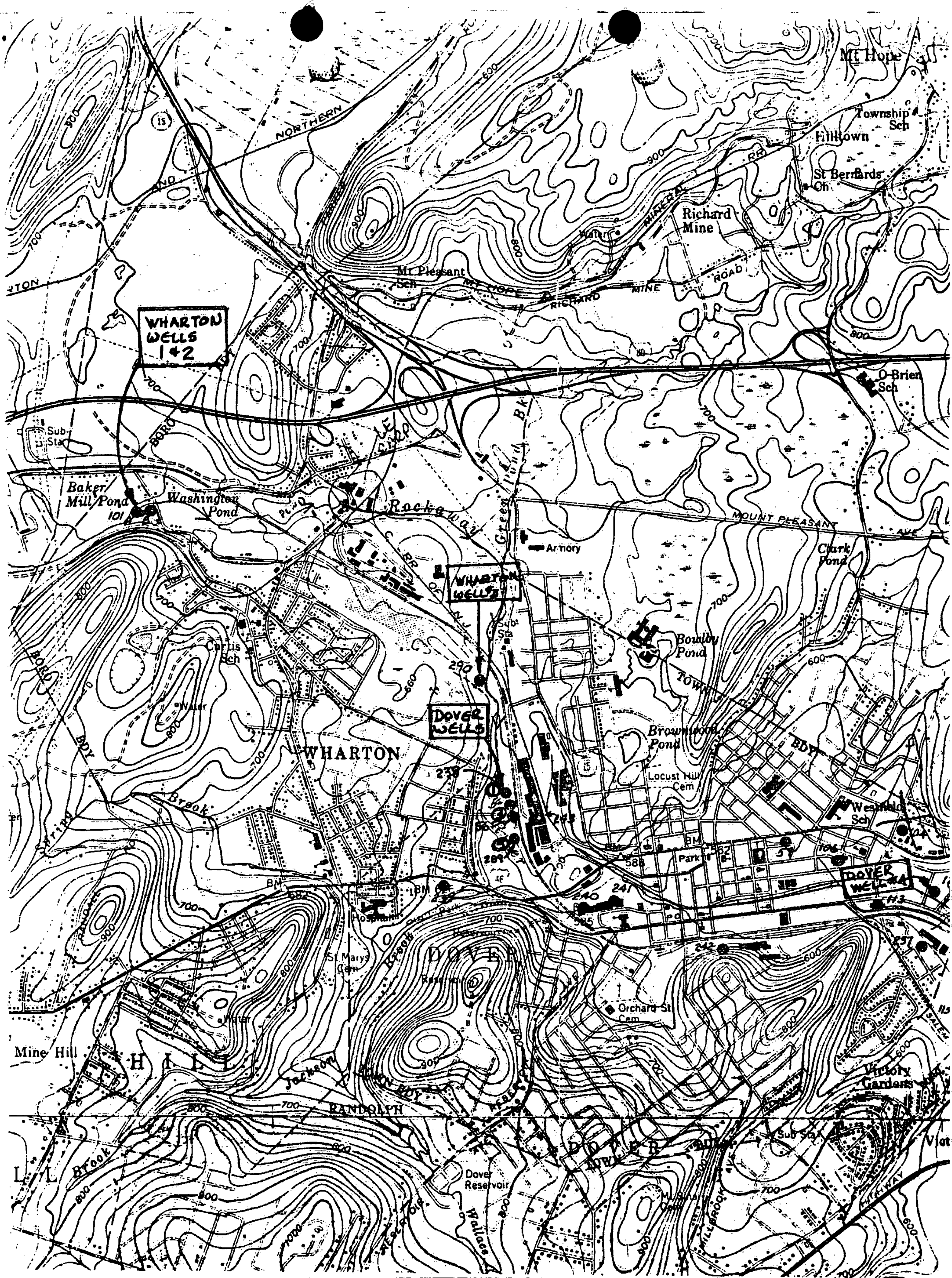
References

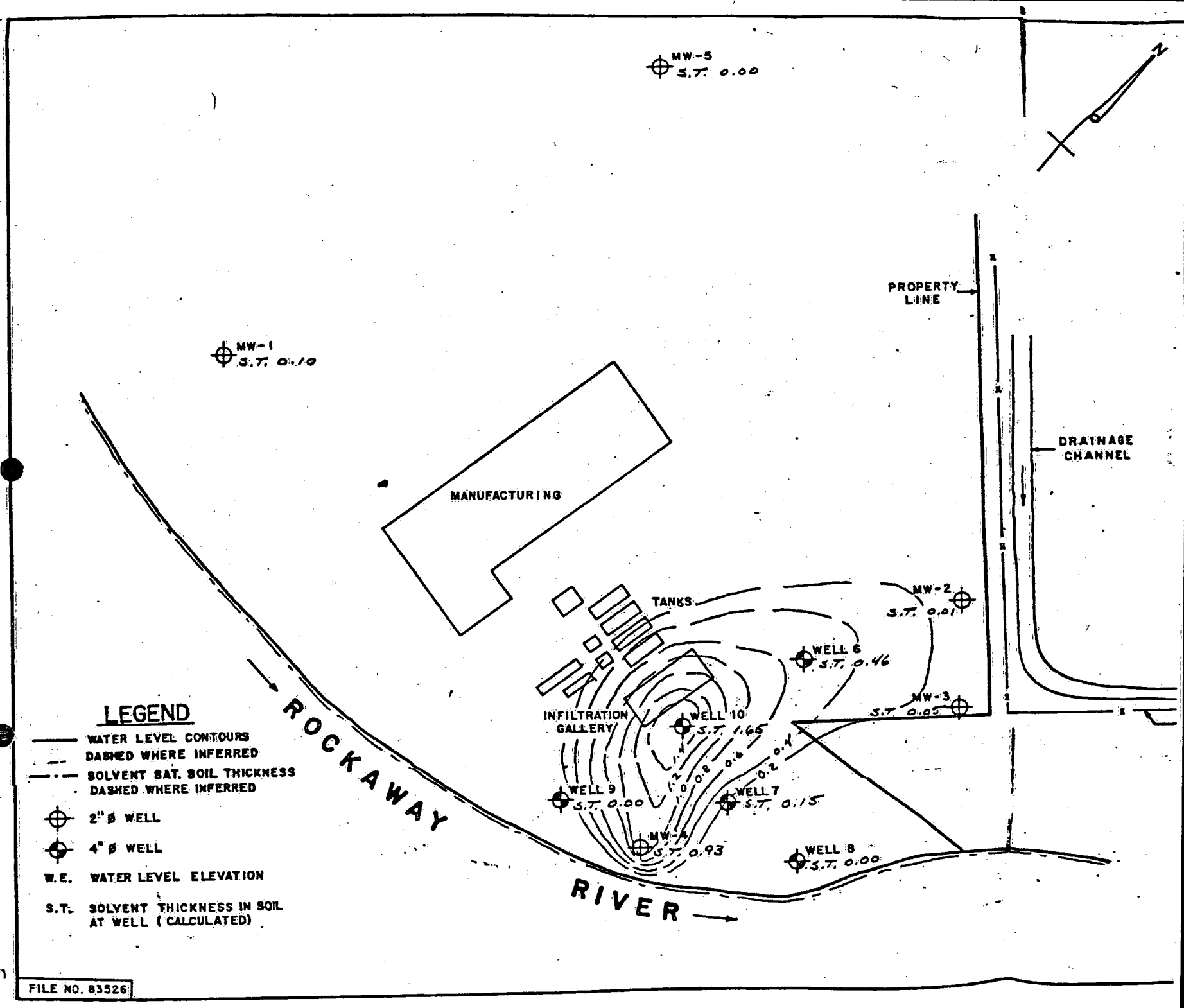
Bear, J., 1979 Hydraulics of Groundwater: McGraw Hill, NY, 569 p.

Ferris, J.G., Knowles, D.B., Brown, R.H. and Stullman, R.W., 1962 Theory of aquifer test: USGS Water-Supply Paper 1536-E, 174 p.

Rheaume, S., 1984 Personal communication, USGS unpublished data.


HILLTOWN
ROCKAWAY BORO.
DENVILLE TWP.
MT. TABOR
SPICERTOWN
MT. HOPE MINERAL R.R.
C.R.R. of N.J. (freight only)
CONRAIL (freight only)
see large scale insert Grid J14
07801
FRANKLIN
WHARTON
Site
Well Site
07885
VICTORY GARDENS BORO.
UNION HILL
Greystone Park State Hospital
WHARTON BORO
DOVER TOWN
LAKE OPENAKA
GREYSTONE PARK
MINE HILL TWP.
07847
DUCK POND
MILL BROOK
SHONGUM LAKE
07869
MT. FERN
Morris County College
DALRYMPLE POND
CENTER GROVE
KENVIL
BURY TWP.
RANDOLPH TWP.
BLACK RIVER POND
SUCCASUNNA
ERKSHIRE VALLEY
WASHINGTON VALLEY


WHARTON WELLS 1 & 2
WHARTON WELLS 3
DOVER WELLS
DOVER WELLS
Mt Hope
Township Sch
Hilltown
St Bernards Ch
Richard Mine
Mt Pleasant Sch
MT HOPE
RICHARD MINE ROAD
MINERAL
NORTHERN
O Brien Sch
Sub Sta
Baker Mill Pond
Washington Pond
Rockaway
Green Pond Bk
MOUNT PLEASANT AVE
Armory
Clark Pond
Bowlby Pond
Curtis Sch
Water
WHARTON
Brownwood Pond
Locust Hill Cem
Westfield Sch
Brook
Park
Hospital
Reservoir
St Marys Cem
DOVER
Orchard St Cem
Mine Hill
HILL
Jackson
RANDOLPH
Victory Gardens
Dover Reservoir
Wallace
Mt Sinai Cem
MILLBROOK AVE
Brook



FILE NO. 83526

TO File ER-46-82 through [illegible]

FROM Tony Altieri TA. DATE September 2

SUBJECT: Special Sampling Rockaway River and L.E. Carpenter, (NPDES #NJ0003611), Wharton Boro, Morris County

On May 14, 1982, the Division of Water Resources' Emergency Response Unit (ERCOM) responded to a request by the Division of Fish, Game and Wildlife to collect and obtain analyses of water samples at the above-noted site.

The Division of Waste Management had been contacted but no one was available from their unit to respond. Region 4, Enforcement, DWR, (Joe Miller) was also advised at this time.

A local fisherman had reported to the Division of Fish, Game and Wildlife that he had noticed what he thought was a spill of a heavy oil like material in the Rockaway River behind the L.E. Carpenter plant located at 170 North Main Street, Wharton Borough.

Arriving at the Rockaway River site at 12:30 P.M. Lt. Burns (F.G.&W.) and the writer located the oil on a small island in the middle of the river behind the L.E. Carpenter facility. (See attached sketch). Water and sediment samples were collected upstream, downstream, and at the spill location. No unusual odors were noticed at this time.

To try to determine the spill source it was decided to inspect the nearby L.E. Carpenter site, which was currently undergoing an extensive clean-up operation. Following a detailed site inspection, additional samples were collected at the L.E. Carpenter old abandoned waste lagoons (chemical waste disposal area) and adjacent pit. (See sketch for locations and sample numbers). This on-going clean-up is being handled by DRW, Region 4, Enforcement. (Greg Cunningham).

During our inspection of the site, Lt. Burns and the writer, were accompanied by Mr. Frank Aron, technical Director and Mr. Wally Yocum, technical Manager of L.E. Carpenter. Both of these men were advised of the presence of this spilled material but neither acknowledged responsibility for its occurrence. They did however, at the request of the inspectors, clean-up the material. No source for this spill could be determined at this time.

TA:bg

cc: G. Cunningham, DWR, Region 4, Enforcement
Lt. R. Burns, Division of Fish, Game, and Wildlife
ERCOM file ER-46-82

Appendix E

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625

JOHN W. GASTON JR., P.E.
DIRECTOR

DIRK C. HOFMAN, P.E.
DEPUTY DIRECTOR

M E M O R A N D U M

TO: Lance Miller, Superfund Coordinator

FROM: William Kramer THROUGH William F. Althoff and Haig Kasabach, Acting State Geologist, NJGS

SUBJECT: L.E. Carpenter Superfund Submitted - Supplemental Information, Wharton, Morris County

This information is being submitted at the request of Bob Hayton (HSMA) in support of a listing of the L.E. Carpenter (DAYCO) site on CERCLA NPL.

The ground water contamination at the L.E. Carpenter site occurs in the Unconsolidated Quaternary Aquifer in the Rockaway River area, a Sole Source Aquifer designated by USEPA. The aquifer begins at the water table. A drillers' log of the production well at L.E. Carpenter does not indicate any type of aquitard to a depth of 48 feet.

cc: Bob Hayton (HSMA)
Greg Cunningham

Appendix F

Appendix G

resubmitted his petition which included the necessary data to consider the package up-to-date and complete. EPA published a notice in the Federal Register. On November 13, 1981, which served to publish the highlights of the petition, to announce a public comment period, and to determine if there was sufficient public interest to hold a public hearing. Based on comments from concerned parties, the public comment period was extended to January 15, 1982. A total of 14 written comments were received. It was determined, that a public hearing was not necessary because public interest was not sufficient. No commenters requested a public hearing. Seven of the written responses were against designation. Most of the commenters were of the opinion that Federal projects were already subject to sufficient environmental impact studies which delineated appropriate actions to protect ground water. It was generally concluded that designation would only result in duplicate project review resulting in additional delays to Federal projects. Other comments addressed opposition to the arbitarary exclusion of the cities of Milwaukee, Racine, and Kenosha, since their absence from the calculations could be misleading by implying a higher percentge of total ground water usage versus the total water usage for the petitioned area.

Six responses indicated support for the designation of the described area. This group of responders consisted of local environmental organizations and State representatives. These commenters were concerned about the aquifers' susceptibility to contamination as well as the great cost that would be incurred to replace the water supplies. In addition to the comments, a local planning commission submitted technical data without making any recommendations about designation of the aquifer.

Analysis of Action

The original area proposed by the petitioner included "east of the western most boundary of the Niagara aquifer, west and south of the Wisconsin shoreline of Lake Michigan but excluding the cities of Milwaukee, Racine, and Kenosha; north of the Wisconsin-Illinois border."

In a similar case, Maryland Piedmont at 45 FR 57165 August 27, 1980, EPA enlarged the area designated by the petitioner because the area was not hydrologically defined. This determination to use hydrologic boundaries was uphelp by the United States Court of Appeals for the Fourth Circuit. (Montgomery County, Maryland *vs* US Environmental Protection Agency 662 F.2d 1040 (1981)).

The EPA has concluded that the reasons for excluding the cities of Milwaukee, Racine, and Kenosha as well as the use of the Wisconsin-Illinois State line as the southern boundary were arbitrary. Based on an extensive literature search and technical consultation with State agencies, the modified petition boundaries include the cities of Milwaukee and Racine since they are not hydrogeologically isolated from the rest of the Niagara aquifer system. The southern boundary is a ground water divide interpreted to be located north of the city of Kenosha.

Basis for Denial

EPA published proposed procedural regulations to implement Section 1424(e) September 29, 1977 at 42 FR 51620. Although the proposed regulations have not been promulgated in final form, the Agency uses the proposed regulations as guiidance in processing petitions and making sole or principal source aquifer determinations. A sole or principal source acquifer is defined therein as an acquifer which supplies 50 percent or more of the drinking water for an area. The proposed regulations also require the Administrator to consider the availability of alternative sources of drinking water in making the determination.

The U.S. Geological Survey published a report on the *Water Use in Wisconsin*, 1979 (Open-File Report 82-444). Analysis of report data shows only 17 percent of the residential water usage within the proposed area is supplied by ground water. If the total water usage (residential, industrial, commerical, irrigation, livestock watering, ect) is considered for the proposed area, the total ground-water usage would be 28 percent. Finally, all of the above ratios for ground-water usage in the proposed area includes usage from the deeper Cambrian-Ordocvician acquifer which is geologically separated from the petitioned shallower acquifers by the confining Maquoketa shale. Therefore, the percentage of ground-water usage for the petitioned acquifer fails to meet the 50 percent water usage criteria required for an acquifer to be designated as a sole source.

Dated: January 12, 1983.

William D. Ruckelshaus,

Administrator.

[FR Doc. 84-1889 Filed 1-23-84; 8:45 am]

BILLING CODE 6560-50-M

[OW-FRL-2460-4]

Unconsolidated Quaternary Aquifer, in the Rockaway River Area, New Jersey; Final Determination

AGENCY: U.S. Environmental Protection Agency.

ACTION: Notice.

SUMMARY: Notice is hereby given that, pursuant to Section 1424(e) of the Safe Drinking Water Act, the Administrator of the U.S. Environmental Protection Agency (EPA) has determined that the Unconsolidated Quaternary Aquifer in the Rockaway River Basin is the sole or principal source of drinking water for the Rockaway River Basin Area, and that the Unconsolidated Quaternary Aquifer, if contaminated, would create a significant hazard to public health. As a result of this action, all Federal financially assisted projects constructed in the Rockaway River Basin Area will be subject to EPA review to insure that these projects are designed and constructed without a significant hazard to public health.

ADDRESSES: The data on which these findings are based is available to the public and may be inspected during normal business hours at the U.S. Environmental Protection Agency, Region II, Water Supply Branch, Room 824, 26 Federal Plaza, New York, New York 10278.

FOR FURTHER INFORMATION CONTACT: Damian J. Duda, Water Supply Branch, Environmental Protection Agency, Region II at 212-264-1800.

SUPPLEMENTARY INFORMATION: Notice is hereby given that pursuant to Section 1424(e) of the Safe Drinking Water Act, (42 U.S.C. 300f, 300h-3(e), Pub. L. 93-523), the Administrator of the U.S. Environmental Protection Agency (EPA) has determined that the Unconsolidated Quaternary Aquifer of the Rockaway River Basin Area is the sole or principal source of drinking water for the Town of Boonton, Boonton Township, Denville, Dover, Jefferson Township, Mine Hill, Mountin Lakes, Randolph Township, Rockaway Borough, Rockaway Township, Roxbury, Victory Gardens and Wharton. Pursuant to Section 1424(e), Federal financially assisted projects constructed in the Rockaway River Basin Area, which is delineated by the watershed boundaries of the Rockaway River, the Black (Upper Lamington) River Basin in Roxbury Township and Lake Arrowhead in Denville and Mountain Lakes, will be subject to review.

I. Background

Section 1424(e) of the Safe Drinking Water Act states:

If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register. After the publication of any such notice, no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health, but a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.

On November 30, 1979, EPA received a petition from the Upper Rockaway River Watershed Association requesting that EPA designate the Quaternary Wisconsin stratified drift deposits as a sole source aquifer. In response to this petition, EPA published a notice in the Federal Register on September 11, 1980 (45 FR 60010) announcing a public comment period and setting a public hearing date. A public hearing was conducted on October 15, 1980, and the public was requested to submit comments on the petition until November 14, 1980.

II. Basis for Determination

Among the factors to be considered by the Administrator in connection with the designation of an area under Section 1424(e) are: (1) whether the Unconsolidated Quaternary Aquifer is the Area's sole or principal source of drinking water, and (2) whether contamination of the aquifer would create a significant hazard to public health.

On the basis of information available to this Agency, the Administrator has made the following findings, which are the basis for the determination noted above:

1. The Quaternary deposits represent an aquifer which currently serves as the "sole source" of drinking water for approximately 90,000 residents.

2. There are no existing alternative drinking water sources or combination of sources, which would provide fifty percent or more of the drinking water to the designated area, nor is there any reasonably available alternative future source capable of supplying the drinking water demands of the Rockaway River Basin Area.

3. The Unconsolidated Quaternary Aquifer is glacial in origin and is composed of unconsolidated sand and gravel deposits.

As a result of its highly permeable soil characteristics, the Unconsolidated Quaternary Aquifer is susceptible to contamination through its recharge zone from a number of sources, including, but not limited to, chemical spills, highway runoff, septic tanks, leaking storage tanks, and leaching from open dumps. There is current evidence of localized contamination of the aquifer from gasoline spills, individual disposal systems, leaking fuel tanks, and wastewater treatment systems. Since ground water contamination can be difficult or impossible to reverse, and since this aquifer is relied on for drinking water purposes by the general population, contamination of the aquifer would pose a significant hazard to public health.

III. Description of the Unconsolidated Quaternary Aquifer and its Recharge Zone

The Unconsolidated Quaternary Aquifer underlies thirteen municipalities in Morris County, in the Rockaway River Basin Area. The municipalities are the Town of Boonton, Boonton Township, Denville, Dover, Jefferson Township, Mine Hill, Mountain Lakes, Randolph Township, Rockaway Borough, Rockaway Township, Roxbury, Victory Gardens and Wharton. The area in which Federal financially assisted projects will be subject to review is the area which includes the unconsolidated Quaternary Aquifer's (1) recharge zone—delineated by the floodplain areas of the Rockaway River Basin and a portion of the Black (Upper Lamington) River Basin and (2) streamflow source zone—the watershed boundaries of the Rockaway River Basin, a portion of the Black (Upper Lamington) River Basin and Lake Arrowhead.

IV. Information Utilized in Determination

The information utilized in this determination includes the petition, written and verbal comments submitted by the public and the New Jersey Department of Environmental Protection and a study on the available water supply in the Rockaway Area (Tetra-Tech, 1979).

The above data is available to the public and may be inspected during normal business hours at the Environmental Protection Agency Region II, Water Supply Branch, Room 824, 26 Federal Plaza, New York, New York.

V. Project Review

EPA Region II is working with the Federal agencies that may in the future provide financial assistance to projects in the area of concern. Interagency procedures have been developed in which EPA will be notified of proposed commitments by Federal agencies for projects which could contaminate the Unconsolidated Quaternary Aquifer. EPA will evaluate such projects and, where necessary, conduct an in-depth review, including soliciting public comment where appropriate. Should the Administrator determine that a project may contaminate the aquifer through its recharge zone so as to create a significant hazard to public health, no commitment for Federal financial assistance may be entered into. However, a commitment for Federal financial assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.

Although the project review process cannot be delegated, the U.S. Environmental Protection Agency will rely to the maximum extent possible on any existing or future State and local control mechanisms in protecting the ground water quality of the Unconsolidated Quaternary Aquifer.

Included in the review of any Federal financially assisted project will be coordination with the State and local agencies. Their comments will be given full consideration and the Federal review process will attempt to complement and support State and local ground water protection mechanisms.

VI. Summary and Discussion of Public Comments

Most of the comments received from Federal, State and local government agencies and from the public were strongly in favor of designation. Only two commenters expressed any reservations regarding the designation.

Two commenters felt that EPA currently has sufficient ground water protection mechanisms, which, together with State and local mechanisms, render a sole source designation unnecessary. Each felt that a municipality should have the responsibility of protecting its own water resource. Although a number of ground water protection measures are available at the Federal, State and local level, none of these, either individually or collectively, permit EPA to act as directly and comprehensively as would a sole source designation in the review and approval of Federal financially assisted projects. In addition, EPA feels

that the sole source project review process will foster integration rather than duplication of environmental review efforts.

One other commenter, although generally in favor of the designation had some recommendations to the existing petition. Specifically the two recommendations are (1) to extend the recharge area and (2) to expand any project review to include both federally assisted and non-federally assisted projects mainly public and semi-public. EPA has evaluated the recharge suggestion and determined the extent of the recharge area for project review. At present, only Federal financially assisted projects can come under sole source review. EPA does not have the legal means to review any non-federally funded project without amendment to the Safe Drinking Water Act. Federal financial assistance will only be withheld in those instances where it is determined that a proposed project may contaminate the aquifer so as to create a significant hazard to public health and no acceptable remedial measures are available to prevent the potential hazard.

VII. Economic and Regulatory Impact

Pursuant to the provisions of the Regulatory Flexibility Act (RFA), 5 U.S.C. 605(b), I hereby certify that the attached rule will not have a significant impact on a substantial number of small entities. For purposes of this Certification the "small entity" shall have the same meaning as given in Section 601 of the RFA. This action is only applicable to the Rockaway Rover Basin Area. The only affected entities will be those Area-based businesses, organizations or governmental jurisdictions that request Federal financial assistance for projects which have the potential for contaminating the aquifer so as to create a significant hazard to public health. EPA does not expect to be reviewing small isolated commitments of financial assistance on an individual basis, unless a cumulative impact on the aquifer is anticipated; accordingly, the number of affected small entities will be minimal.

For those small entities which are subject to review, the impact of today's action will not be significant. Most projects subject to this review will be preceded by a ground water impact assessment required pursuant to other Federal laws, such as the National Environmental Policy Act, as amended (NEPA), 42 U.S.C. 4321, et seq. Integration of those related review procedures with sole source aquifer review will allow EPA and other Federal agencies to avoid delay or duplication of effort in approving financial assistance, this minimizing any adverse effect on those small entities which are affected. Finally today's action does not prevent grants of Federal financial assistance which may be available to any affected small entity in order to pay for the redesign of the project to assure protection of the aquifer.

Under Executive Order 12291, EPA must judge whether a regulation is "major" and, therefore, subject to the requirement of a Regulatory Impact Analysis. This regulation is not major because it will not have an annual effect of $100 million or more on the economy, will not cause any major increase in costs or prices, and will not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of United States enterprises to compete in domestic or export markets. Today's action only affects the Rockaway River Basin Area. It provides an additional review of ground water protection measures, incorporating State and local measures wherever possible, for only those projects which request Federal financial assistance. This regulation was submitted to office of Management and Budget for review under EP 12291.

Dated: January 12, 1983.

William D. Ruckelshaus,

Administrator.

[FR Doc. 84-1886 Filed 1-23-84; 8:45 am]
BILLING CODE 6560-50-M

[SA-FRC 2511-6]

Science Advisory Board; Environmental Engineering Committee; Open Meeting

Under Pub. L. 92-463, notice is hereby given that a two-day meeting of the Environmental Engineering Committee (EEC) of the Science Advisory Board will be held in Conference Room 3906-3908M, U.S. Environmental Protection Agency, 401 "M" Street, SW., Washington, D.C., on February 8-9, 1984. The meeting will begin at 9:00 a.m., and last until approximately 5:00 p.m. each day.

The agenda for the meeting will include a continuation of the Committee's review of data supporting proposed effluent guidelines for the organic chemical and plastics/synthetic fibers industry. Other agenda items are not yet firm, but will probably include discussions on RCRA-related issues, control technology research, and sludge management.

The meetings is open to the public. Any member of the public wishing to participate or obtain further information about the meeting should contact Harry C. Torno, Executive Secretary, at (202) 382-2552, or Terry F. Yosie, Staff Director, Science Advisory Board, at (202) 382-4126. Public comment will be accepted at the meeting. Written comment will be accepted in any form, and there will be opportunity for brief oral statements. Anyone wishing to make such comment must contact Mr. Torno prior to February 3, 1984, in order to be placed on the agenda.

EPA has recently instituted new visitor control procedures. In order to minimize any inconvenience, persons wishing to attend are requested to call Ms. Cheryl Fauntleroy at (202) 382-2552, so that they may be included on a roster that will be prepared for the building security guards. Attendees are also requested to enter the building at the West Tower entrance.

Dated: January 16, 1984.

Terry F. Yosie,

Staff Director, Science Advisory Board.

[FR Doc. 84-1884 Filed 1-23-84; 8:45 am]
BILLING CODE 6560-50-M

[OW-FRL-2511-3]

Final Determination; Groundwater System of the Upper Santa Cruz Basin and the Avra-Altar Basin of Pima, Pinal, and Santa Cruz Counties, Arizona: Aquifer Determination

AGENCY: Environmental Protection Agency.

ACTION: Final Determination.

SUMMARY: Pursuant to Section 1424(e) of the Safe Drinking Water Act, the Administrator of the U.S. Environmental Protection Agency (EPA) has determined that the Upper Santa Cruz and Avra-Altar Aquifers are the sole or principal source of drinking water for the Tucson Active Management Area, as established by the 1980 Arizona Groundwater Management Act, and that these aquifers, if contaminated, would create a significant hazard to public health. As a result of this action, Federal financially assisted projects constructed anywhere in the Tucson Active Management Area will be subject to EPA review to ensure that these projects are designed and constructed so that they do not create a significant hazard to public health.

ADDRESSES: The data on which these findings are based are available to the public and may be inspected during normal business hours at the U.S. Environmental Protection Agency, Region 9, Water Management Division, A